

DESCRIPTION OF TABLES AND CHARTS.

Table I gives the data ordinarily needed for climatological studies for about 158 Weather Bureau stations making simultaneous observations at 8 a. m. and 8 p. m., daily, 75th meridian time, and for about 41 others making only one observation. The altitudes of the instruments above ground are also given.

Table II gives a record of precipitation, the intensity of which at some period of the storm's continuance equaled or exceeded the following rates:

Duration (minutes)	5	10	15	20	25	30	35	40	45	50	60
Rates per hour (Inches)	3.00	1.80	1.40	1.20	1.08	1.00	0.94	0.90	0.87	0.84	0.80

It is impracticable to make this table sufficiently wide to accommodate on one line the record of accumulated falls that continue at an excessive rate for several hours. In this case *the record is broken at the end of each 50 minutes*, the accumulated amounts being recorded on successive lines until the excessive rate ends.

In cases where no storm of sufficient intensity to entitle it to a place in the full table has occurred, the greatest precipitation of any single storm has been given, also the greatest hourly fall during that storm.

Table III gives, for about 30 stations of the Canadian Meteorological Service, the means of pressure and temperature, total precipitation and depth of snowfall, and the respective departures from normal values except in the case of snowfall.

Chart I.—Hydrographs for several of the principal rivers of the United States.

Chart II.—Tracks of centers of high areas; and

Chart III.—Tracks of centers of low areas. The roman numerals show the chronological order of the centers. The figures within the circles show the days of the month; the letters *a* and *p* indicate, respectively, the observations at 8 a. m. and 8 p. m., 75th meridian time. Within each circle is also given (Chart II) the last three figures of the highest barometric reading and (Chart III) the lowest reading reported at or near the center at that time, and in both cases as reduced to sea level and standard gravity.

Chart IV.—Temperature departures. This chart presents the departures of the monthly mean temperatures from the monthly normals. The normals used in computing the departures were computed for a period of 33 years (1873 to 1905) and are published in Weather Bureau Bulletin "R," Washington, 1908. Stations whose records were too short to justify the preparation of normals in 1908 have been provided with normals as adequate records became available and all have been reduced to the 33-year interval 1873–1905. The shaded portions of the chart indicate areas of positive departures and unshaded portions indicate areas of negative departures. Generalized lines connect places having approximately equal departures of like sign. This chart of monthly

temperature departures in the United States was first published in the MONTHLY WEATHER REVIEW for July, 1909.

Chart V.—Total precipitation. The scale of shades showing the depth is given on the chart. Where the monthly amounts are too small to justify shading, and over sections of the country where stations are too widely separated or the topography is too diversified to warrant reasonable accuracy in shading, the actual depths are given for a limited number of representative stations. Amounts less than 0.005 inch are indicated by the letter T, and no precipitation by 0.

Chart VI.—Percentage of clear sky between sunrise and sunset. The average cloudiness at each Weather Bureau station is determined by numerous personal observations between sunrise and sunset. The difference between the observed cloudiness and 100 is assumed to represent the percentage of clear sky, and the values thus obtained are the basis of this chart. The chart does not relate to the nighttime.

Chart VII.—Isobars and isotherms at sea level and prevailing wind directions. The pressures have been reduced to sea level and standard gravity by the method described by Prof. Frank H. Bigelow on pages 13–16 of the REVIEW for January, 1902. The pressures have also been reduced to the mean of the 24 hours by the application of a suitable correction to the mean of the 8 a. m. and 8 p. m. readings at stations taking two observations daily, and to the 8 a. m. or the 8 p. m. observation, respectively, at stations taking but a single observation. The diurnal corrections so applied will be found in the Annual Report of the Chief of the Weather Bureau, 1900–1901, volume 2, Table 27, pages 140–164.

The isotherms on the sea-level plane have been constructed by means of the data summarized in chapter 8 of volume 2, of the annual report just mentioned. The correction $t_0 - t$, or temperature on the sea-level plane minus the station temperature as given by Table 48 of that report, is added to the observed surface temperature to obtain the adopted sea-level temperature.

The prevailing wind directions are determined from hourly observations at the great majority of the stations; a few stations having no self-recording wind direction apparatus determine the prevailing direction from the daily or twice-daily observations only.

Chart VIII.—Total snowfall. This is based on the reports from regular and cooperative observers and shows the depth in inches and tenths of the snowfall during the month. In general, the depth is shown by lines inclosing areas of equal snowfall, but in special cases figures are also given. Chart VIII is published only when the general snow cover is sufficiently extensive to justify its preparation.

MONTHLY WEATHER REVIEW.

MARCH, 1915

TABLE I.—Climatological data for United States Weather Bureau stations, March, 1915.

Districts and stations.	Elevation of instruments.		Pressure in inches.		Temperature of the air, in degrees Fahrenheit.						Precipitation, inches.		Wind.			Average cloudiness, tenths.			Snow on ground at end of month.			
	Barometer above sea level, feet.	Thermometer above ground.	Station, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hours.	Departure from normal.	Mean max. + min.	Max.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.	Total.	Days with 0.01 or more.	Total movement, miles.	Prevailing direction.	Maximum velocity.	Clear days.	Cloudy days.		
	Anerometer above ground.					max. - min. + 2.											Miles per hour.	Date.				
New England.						32.4	- 0.5														3.8	
Eastport.	76	67	85	29.56	29.65	- 0.28	29.9 + 1.0	53 25	36	10	27	23	26	21	69	0.57	- 3.7	8 10,036	n.w.	40 w.	27	5 17 9 6.1
Greenville.	1,070	6	28.52	29.71		23.2		48 25	32	- 10	27	21	30	26	52	0.24	4	3 8.217	n.w.	36 n.w.	26 18 7 8.3	
Portland, Me.	103	82	117	29.64	29.76	- .20	32.2 + 0.2	54 25	41	12	31	24	28	26	16	52	0.09	4	3 8.217	n.w.	36 n.w.	27 20 9 2.1
Concord.	288	79	26.48	29.78		22.31	+ 0.2	55 25	41	10	23	23	28	26	17	53	0.22	5	7 2.55	n.w.	36 n.w.	26 10 12 9 5.0
Burlington.	404	11	48	29.40	29.88	- .14	25.6 + 1.7	48 25	33	5	3	18	27	28	22	73	0.25	5	6 6.123	n.w.	36 n.w.	27 11 12 9 3.2
Northfield.	876	12	60	25.86	29.84	- 16	24.9 + 1.3	48 25	34	5	3	16	28	22	17	74	0.25	5	6 6.123	n.w.	32 n.w.	27 11 12 9 1.6
Boston.	125	115	188	29.64	29.78	- .19	35.8 + 0.8	50 25	41	14	13	27	31	20	51	58	0.25	4	9 9.237	n.w.	37 w.	26 20 8 3.2
Nantucket.	12	14	90	29.75	29.78	- .22	35.0 + 1.8	52 25	41	17	3	29	23	20	53	68	0.25	4	5 12.088	n.w.	43 n.w.	26 17 10 4.3
Block Island.	26	11	48	26.76	29.79	- .19	34.3 + 1.1	51 25	41	18	3	29	22	31	71	53	0.33	4	6 16.590	n.w.	71 n.w.	30 22 4 5.1
Narragansett Pier.	9																				2.2	
Providence.	160	215	251	29.61	29.79	- .19	34.3 + 1.4	56 25	43	14	3	28	29	29	60	56	0.07	4	6 21.162	n.w.	59 n.w.	26 22 3 5.0
Hartford.	159	122	140	29.65	29.88	- .16	34.8 + 0.2	58 25	43	14	3	28	29	29	60	59	0.29	4	3 6.734	n.w.	32 w.	26 17 9 3.5
New Haven.	106	117	155	29.72	29.94	- .15	36.0 + 0.6	58 25	45	16	3	27	30	28	71	49	0.23	4	5 8.367	n.w.	35 n.w.	26 20 3 2.9
Middle Atlantic States.				37.0	- 3.0																4.1	
Albany.	97	102	115	29.77	29.88	- .13	32.4 + 0.3	54 25	40	13	4	24	23	27	69	0.09	2	6 6.882	n.w.	32 w.	26 21 7 3.2	
Binghamton.	71	10	69	28.98	29.91	- .11	29.8 + 2.2	51 25	37	12	4	24	26	27	60	53	1.14	3	6 5.541	n.w.	24 n.w.	26 13 4 5.4
New York.	314	414	454	29.52	29.86	- .14	36.4 + 1.1	55 25	44	18	3	28	24	29	20	53	1.86	4	3 18.961	n.w.	62 n.w.	3 19 7 3.2
Harrisburg.	374	94	104	29.54	29.95	- .08	36.0 + 1.8	54 25	43	19	4	26	23	30	58	1.86	4	6 6.341	n.w.	28 n.w.	30 13 11 7.4	
Philadelphia.	117	123	190	29.78	29.91	- .11	38.7 + 1.3	55 25	43	20	4	31	22	33	62	1.00	4	6 4.900	n.w.	36 n.w.	30 19 9 3.1	
Reading.	325	81	98	29.56	29.92		36.2 + 5.7	55 25	44	19	10	28	24	30	56	1.42	2	8 7.037	n.w.	30 n.w.	3 13 11 7.4	
Scranton.	805	111	119	29.04	29.92	- .10	31.6 + 3.3	55 25	43	19	3	20	24	24	74	1.21	4	6 4.400	n.w.	32 sw.	26 11 14 5.4	
Atlantic City.	52	37	48	29.84	29.90	- .12	37.1 + 1.7	54 25	45	20	4	29	27	31	61	1.29	2	4 6.764	n.w.	26 n.w.	30 21 5 3.4	
Cape May.	18	13	49	29.91	29.93	- .08	38.8 + 2.0	57 25	45	24	4	33	30	30	82	0.58	4	8 4.179	n.w.	36 e.	6 15 12 5.2	
Sandy Hook.	22	10	57	29.85	29.87		36.6 + 5.7	55 25	43	22	4	30	19	33	80	0.58	4	2 14.468	n.w.	36 w.	30 14 13 4.1	
Trenton.	190	159	183	29.67	29.88		36.0 + 5.7	55 25	44	20	4	29	22	31	58	1.37	2	4 10.124	n.w.	40 n.w.	30 17 9 5.0	
Baltimore.	123	100	113	29.82	29.95	- .08	39.4 + 2.5	60 25	47	23	4	32	22	33	57	1.06	2	8 6.305	n.w.	31 n.w.	31 17 9 4.0	
Washington.	112	62	85	29.82	29.96	- .09	38.8 + 3.4	62 25	50	27	3	30	30	32	57	1.07	2	8 5.703	n.w.	31 n.w.	21 12 7 4.6	
Lynchburg.	681	153	188	29.20	29.96	- .09	41.2 + 4.2	66 25	51	26	4	32	37	35	63	1.14	2	8 5.199	n.w.	29 n.w.	8 12 7 5.1	
Norfolk.	91	170	205	29.84	29.94	- .09	42.4 + 5.3	62 25	50	28	9	32	24	35	60	1.14	2	8 0.810	n.w.	52 w.	22 11 10 4.7	
Richmond.	144	11	52	29.81	29.97	- .07	40.6 + 6.3	63 25	50	26	28	32	30	34	56	1.10	2	8 6.239	n.w.	28 sw.	25 16 7 4.2	
Wytheville.	2,293	40	47	27.55	30.00	- .05	34.4 + 7.9	55 25	42	20	13	26	35	29	68	1.90	2	8 5.079	w.	24 w.	25 19 3 9 3.8	
South Atlantic States.				46.5	- 7.3															4.9		
Asheville.	2,255	70	84	27.59	30.02	- .04	36.8 + 8.1	63 25	45	20	22	28	34	31	66	2.00	3	8 6.327	n.w.	29 n.	17 14 7 10 4.9	
Charlotte.	773	68	76	29.13	29.98	- .07	43.1 + 7.7	68 26	52	27	18	34	32	36	61	3.44	1	8 5.314	sw.	30 sw.	22 9 13 9 5.4	
Hatteras.	11	12	50	29.92	29.93	- .11	45.2 + 6.2	64 26	51	33	20	39	24	40	70	1.11	4	10 11,847	ne.	47 w.	22 11 10 5.1	
Manteo.	12	4	46				42.2 + 6.6	66 26	51	25	15	33	32	35	60	0.43	4				6	
Raleigh.	376	103	120	29.55	29.97	- .05	42.7 + 7.7	65 25	52	28	15	34	34	35	58	2.63	1	8 12.158	n.w.	30 w.	22 13 12 6 4.6	
Wilmington.	78	81	91	29.88	29.97	- .08	46.4 + 7.3	75 26	56	31	18	36	26	39	63	2.18	1	8 7.539	w.	34 w.	22 12 12 7 4.0	
Charleston.	48	11	92	29.93	29.98	- .08	49.6 + 7.6	74 26	58	34	23	42	25	43	69	2.83	0	8 6.236	n.w.	35 ne.	4 13 11 7 4.7	
Columbia, S. C.	251	41	57	29.60	30.00	- .06	46.6 + 7.4	74 26	57	30	23	36	29	38	58	2.33	1	8 10.650	n.w.	31 sw.	7 15 3 13 5.1	
Augusta.	180	89	97	29.80	30.00	- .06	47.3 + 8.6	76 26	58	29	23	37	33	41	70	2.08	2	8 7.503	n.w.	30 w.	16 15 5 11 4.8	
Savannah.	65	150	184	29.93	30.00	- .06	51.8 + 6.5	77 26	61	35	23	43	29	44	67	2.06	1	8 6.10,235	n.w.	44 n.w.	16 12 9 10 4.9	
Jacksonville.	43	98	129	29.96	30.01	- .05	55.8 + 6.1	77 5	65	38	9	47	28	49	74	2.47	1	8 1.0	w.	11 10 10 5.2		
Florida Peninsula.				42.1	- 8.1															6.1		
Key West.	22	10	84	27.59	30.02	- .04	45.6 + 7.2	79 4	51	18	61	16	59	56	73	2.25	+	8 7.526	n.w.	32 n.	21 8 11 12 5.9	
Miami.	25	71	79	29.98	30.01	- .04	63.0 + 9.0	82 31	71	43	9	56	54	52	71	1.57	-	1	8 6.068	n.w.	26 n.w.	17 7 8 6.8
Sand Key.	23	39	72	29.96	29.99	- .03	66.2 + 7.6	76 4	70	54	22	63	60	57	73	2.20	-	8 10.779	n.w.	42 n.	21 9 11 11 5.6	
Tampa.	35	79	96	29.99	30.03	- .04	57.8 + 8.1	76 31	64	40	8	26	51	46	71	1.35	-	1	5 5.364	w.	25 n.w.	17 7 10 10 6.2
Titusville.	44	6																				
East Gulf States.				49.0	- 8.3															5.0		
Atlanta.	1,174	190	216	28.76	30.02	- .04	43.6 + 8.8	67 26	52	25	22	35	25	38	32	67	3.07	- 2.8				
Macomb.	370	78	87	28.61	30.01	- .05	47.9 + 6.9	77 26	59	26	23	37	35	41	34	65	2.40	3	8 5.208	n.w.	26 w.	7 15 5 4.4
Thomasville.	273	8	57	29.72	30.02	- .04	52.2 + 8.0	79 26	64	27	23	40	38	44	40	73	3.17	4	10 7.351	n.w.	21 n.w.	16 13 7 4.9
Pensacola.	56	140	182	29.99	30.05	- .01	53.1 + 8.0	71 27	60	32	24	46	41	46	40	67	3.87	1	8 7.609	n.w.	49 se.	4 10 13 8 5.3
Anniston.	741	9	57	29.25	30.06	- .00</																

TABLE I.—Climatological data for United States Weather Bureau stations, March, 1915—Continued.

Districts and stations.	Elevation of instruments.			Pressure in inches.			Temperature of the air, in degrees Fahrenheit.						Precipitation, inches.			Wind.			Cloudiness, tenths.			Snow on ground at end of month.										
	Barometer above sea level, feet.	Thermometer above ground.	Anerometer above ground.	Station, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hours.	Departure from normal.	Mean max. + mean min. + 2.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.	Mean wet thermometer.	Mean temperature of dew point.	Mean relative humidity, per cent.	Total.	Departure from normal.	Days with 0.01 or more.	Total movement, miles.	Precipitation direction.	Miles per hour.	Direction.	Date.	Clear days.	Partly cloudy days.	Cloudy days.	Total snowfall.		
<i>Ohio Valley and Tennessee.</i>							37.4	-6.7	43.4	-7.9	67	25	52	28	35	31	36	69	1.78	-2.6	13	6,634	nw.	32	nw.	16	11	6	14	5.6	2.9	
Chattanooga.....	762	189	213	29.23	30.06	-0.00	43.4	-7.0	63	25	50	24	32	32	31	35	24	33	-2.8	11	4,277	nw.	22	nw.	16	11	8	15	5.7	6.7		
Knoxville.....	996	93	100	28.95	30.03	-0.03	41.1	-7.0	63	25	50	24	32	32	31	35	24	33	-2.7	11	6,741	nw.	35	w.	21	11	8	15	6.2	2.0		
Memphis.....	399	76	88	30.12	+0.05	-0.04	41.3	-7.9	66	25	49	26	32	32	31	35	24	33	-3.3	9	7,122	nw.	27	sw.	16	11	8	15	6.2	2.1		
Nashville.....	546	162	191	29.49	30.09	+0.04	41.3	-7.9	66	25	49	26	32	32	31	35	24	33	-3.3	9	6,899	nw.	31	ne.	14	10	6	15	5.7	0.7		
Lexington.....	989	75	102	28.95	30.05	-0.03	35.8	-6.6	56	25	43	21	28	22	21	31	24	32	-2.1	10	8,451	w.	40	nw.	16	10	5	15	6.0	T.		
Louisville.....	525	219	255	29.50	30.10	+0.05	38.6	-6.7	57	25	46	25	31	31	30	33	28	32	-3.0	9	5,434	nw.	25	sw.	16	10	6	15	6.5	2.5		
Evansville.....	431	166	176	29.60	30.08	+0.04	38.0	-6.5	56	25	45	18	30	30	31	35	28	32	-3.5	8	6,519	nw.	32	sw.	25	11	9	15	6.0	0.1		
Indianapolis.....	822	154	164	29.16	30.07	+0.03	35.5	-4.1	51	14	42	18	30	30	31	35	28	32	-2.5	8	6,519	nw.	32	sw.	16	10	5	15	6.0	T.		
Terre Haute.....	575	162	129	29.44	30.07	-0.01	37.0	-5.7	57	14	44	22	30	30	31	33	28	32	-1.0	9	6,776	nw.	30	n.	16	11	5	15	6.1	0.3		
Cincinnati.....	628	156	160	29.37	30.07	+0.02	37.5	-5.3	53	15	45	20	30	30	31	33	27	30	-2.0	8	5,563	nw.	22	ne.	12	11	5	15	5.9	1.8		
Columbus.....	524	173	222	29.15	30.05	+0.01	34.0	-5.2	53	14	41	16	30	27	24	30	25	27	-2.0	8	8,870	nw.	37	n.	16	11	6	15	6.4	0.8		
Dayton.....	899	181	216	29.05	30.04	-0.01	34.7	-5.6	54	14	42	18	30	28	23	30	25	27	-1.9	7	7,594	n.	36	n.	16	13	6	15	5.1	1.0		
Pittsburgh.....	812	353	410	29.08	30.01	-0.03	33.2	-6.3	51	14	40	15	3	26	25	28	22	26	-1.26	12	9,347	nw.	39	nw.	29	11	5	15	5.5	5.8		
Elkins.....	1,940	41	50	27.59	30.03	-0.02	31.2	-7.9	51	14	40	13	4	23	38	27	22	27	-1.29	12	8,460	w.	22	se.	5	13	7	15	7.3	14.8		
Parkersburg.....	638	77	84	29.38	30.05	-0.00	35.4	-6.9	53	14	43	18	30	26	25	31	26	31	-2.4	8	6,822	nw.	27	nw.	29	11	7	15	5.7	3.0		
<i>Lower Lake Region.</i>							29.8	-3.1										74	1.00	-1.6								5.2				
Buffalo.....	767	247	280	29.11	29.97	-0.05	27.8	-3.4	44	15	33	13	3	22	19	25	22	28	83	1.38	-1.2	11	12,250	sw.	50	nw.	2	12	9	10	5.1	12.5
Canton.....	448	10	61	29.42	29.91	-0.05	26.2	-2.5	47	23	33	1	4	18	26	27	23	28	0.51	-2.3	7	7,594	w.	38	w.	29	16	11	15	3.4	3.0	
Oswego.....	335	76	91	29.55	29.93	-0.03	28.2	-2.6	42	24	34	12	3	24	18	27	23	28	0.53	-2.3	8	8,887	nw.	44	nw.	30	12	6	15	5.2	4.2	
Rochester.....	523	97	113	29.38	29.97	-0.05	29.4	-1.9	42	23	35	14	30	24	21	26	21	27	0.70	-2.2	10	7,358	n.	31	w.	28	12	5	15	6.0	0.5	
Syracuse.....	507	97	113	29.28	29.94	-0.08	28.0	-3.4	46	25	34	11	4	22	23	25	21	27	1.11	-1.3	10	9,500	nw.	41	nw.	36	10	9	15	5.6	10.7	
Erie.....	714	92	102	29.20	30.00	-0.02	29.2	-3.4	45	25	34	16	4	21	19	27	22	27	0.68	-2.0	9	7,626	w.	30	nw.	29	10	11	15	5.3	3.6	
Cleveland.....	762	190	201	29.18	30.03	-0.00	30.4	-3.4	46	14	35	16	3	26	23	25	23	27	0.92	-1.9	10	9,039	w.	48	w.	29	13	6	15	5.2	3.3	
Sandusky.....	629	82	103	29.33	30.03	-0.00	31.8	-3.4	46	14	34	15	3	26	21	29	24	26	1.17	-1.4	9	9,189	nw.	46	w.	29	13	5	15	5.5	1.1	
Toledo.....	628	208	246	29.35	30.05	+0.02	33.2	-1.6	54	14	41	12	3	24	26	29	24	26	1.76	-0.5	8	9,872	nw.	34	nw.	29	13	5	15	5.0	6.1	
Fort Wayne.....	856	113	124	29.11	30.06	-0.02	32.6	-6.3	52	14	40	13	3	25	25	24	23	27	0.80	-1.2	10	8,908	nw.	32	e.	4	12	3	15	5.8	3.4	
Detroit.....	730	218	245	29.22	30.03	-0.00	31.8	-1.1	53	14	39	13	3	24	22	28	23	27	1.24	-1.1	8	9,482	nw.	27	nw.	29	10	11	15	5.5	6.5	
<i>Upper Lake Region.</i>							28.5	+0.9										76	0.78	-1.5									5.4			
Alpena.....	609	13	92	28.36	30.05	+0.02	26.8	+1.8	45	24	34	6	29	20	28	24	20	25	0.43	-1.6	8	9,543	nw.	44	e.	5	15	9	15	4.8	5.8	
Escanaba.....	612	54	60	29.41	30.10	+0.08	26.0	+2.5	47	9	34	0	3	18	26	23	18	25	0.48	-1.5	3	7,553	n.	35	ne.	5	15	5	15	3.9	6.0	
Grand Haven.....	632	54	92	29.36	30.07	+0.04	30.2	-0.6	44	24	36	12	3	24	23	27	23	26	0.66	-1.3	9	8,066	n.	34	c.	5	15	5	15	4.6	1.4	
Grand Rapids.....	607	70	87	29.28	30.07	+0.04	31.4	-1.6	51	14	39	12	3	24	21	27	23	26	1.13	-1.4	7	8,888	nw.	25	nw.	31	15	6	15	6.2	9.8	
Houghton.....	684	62	72	29.36	30.11	+0.07	34.8	-1.0	48	12	31	1	3	18	31	26	21	25	0.63	-1.5	9	6,997	w.	29	e.	5	15	10	15	6.7	5.2	
Lansing.....	878	11	62	29.37	30.04	-0.01	30.1	-1.2	51	14	40	9	3	21	31	26	21	25	0.78	-1.5	9	4,866	n.	25	nw.	29	13	6	15	6.9	8.0	
Ludington.....	637	60	69	29.35	30.07	-0.01	29.8	-2.5	43	13	35	14	3	24	20	27	24	25	0.55	-0.5	5	7,376	n.	31	w.	29	12	7	15	5.4	4.6	
Marquette.....	734	77	111	29.30	30.13	+0.09	26.5	+2.5	51	12	33	4	2	20	21	26	23	27	0.82	-1.6	9	8,645	nw.	37	nw.	28	13	8	15	5.8	7.7	
Port Huron.....	638	70	120	29.31	30.02	-0.01	29.0	-0.6	48	14	36	13	2	20	26	24	23	27	0.62	-2.0	4	7,306	n.	34	nw.	29	13	7	15	5.6	8.2	
Saginaw.....	641	48	82	29.34	30.06	-0.05	29.6	-0.6	53	13	38	9	3	17	27	21	16	24	0.08	-1.8	4	7,781	nw.	38	nw.	2	8	8	15	5.7	0.9	
Sault Sainte Marie.....	614	61	61	29.36	30.08	+0.05	24.8	+3.5	46	13	33	0	3	17	27	22	17	27	0.36	-1.2	9	9,765	nw.	49	ne.	5	13	10	15	4.8	3.5	
Chicago.....	823	140	310	29.17	30.08	+0.05	34.8	+0.4	57	24	40	21	29	30	22	31	25	20	0.60	-2.0	7	7,909	nw.	31	ne.	4	11	8	15			

MONTHLY WEATHER REVIEW.

MARCH, 1915

TABLE I.—Climatological data for United States Weather Bureau stations, March, 1915—Continued.

Districts and stations.	Elevation of instruments.		Pressure in inches.		Temperature of the air, in degrees Fahrenheit.						Precipitation, inches.		Wind.																		
	Barometer above sea level, feet.	Thermometer above ground, feet.	Station, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hours.	Mean max. + mean min. + z.	Departure from normal.	Mean maximum.	Mean minimum.	Date.	Mean maximum.	Mean minimum.	Date.	Mean dew point.	Mean relative humidity, per cent.	Total.	Departure from normal.	Days with 0.01 or more.	Total movement.	Prevailing direction.	Miles per hour.	Maximum velocity.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Total snowfall.	Snow on ground at end of month.					
<i>Northern Slope.</i>					30.3	- 0.6									75	0.98	- 0.1								5.9						
Havre.	2,505	11	44	27.50	30.24	+ 0.24	24.9	- 2.4	51	21	34	4	15	54	0.10	- 0.4	4	4,504	e.	23	sw.	21	13	9	5.2	0.8					
Helena.	4,110	87	114	25.88	30.13	+ .11	37.5	+ 6.8	65	22	45	16	26	28	0.63	- 0.1	3	6,359	sw.	33	sw.	18	11	13	5.4	...					
Kalispell.	2,962	11	341	27.02	30.13	+ .13	37.1	+ 4.1	61	22	47	26	27	35	0.59	- 0.5	8	2,592	w.	13	sw.	18	12	9	4.9	0.5					
Miles City.	3,271	26	48	27.64	30.28	+ .26	48	+ 0.5	54	21	39	0	19	30	0.57	- 0.6	4	3,573	n.	19	n.	27	10	11	4.9	1.1					
Rapid City.	3,259	50	58	26.72	30.30	+ .20	25.4	- 6.3	59	23	33	1	8	17	0.57	- 0.2	14	6,443	u.	41	n.	20	8	15	6.2	0.9					
Cheyenne.	6,088	84	101	23.97	30.14	+ .13	27.6	- 5.4	55	23	38	5	24	29	0.57	+ 0.7	17	9,188	nw.	42	nw.	22	4	10	7.1	18.3					
Lander.	5,372	60	68	24.65	30.12	+ .13	33.4	+ 2.1	64	22	45	3	26	22	0.56	- 0.2	11	3,170	sw.	36	ne.	18	8	9	4.1	15.0					
Sheridan.	3,790	10	47	26.19	30.21		30.2	- 3.9	61	22	41	3	26	19	0.57	- 0.2	10	4,123	se.	30	nw.	16	3	15	6.7	7.4					
Yellowstone Park.	6,200	11	48	23.87	30.13	+ .11	30.4	+ 3.9	56	22	41	6	24	26	0.57	- 0.2	24	4,520	nw.	2	12	6	4	21	7.3	19.2					
North Platte.	2,821	11	51	27.19	30.24	+ .23	26.8	- 8.5	58	23	34	- 3	8	19	0.57	- 0.2	14	6,480	n.	32	n.	19	6	4	21	7.3					
<i>Middle Slope.</i>					34.0	- 8.5									75	1.44	0.0								6.9						
Denver.	5,291	129	172	24.72	30.12	+ .17	33.8	- 5.1	63	23	43	12	25	24	0.91	- 0.1	13	5,785	n.	40	n.	20	2	11	18	7.5	5.6				
Pueblo.	4,635	80	36	25.29	30.08	+ .16	35.0	- 5.6	69	24	46	12	20	21	0.48	- 0.4	5	4,677	se.	42	nw.	29	4	20	7	6.1	3.5				
Concordia.	1,398	42	28	26.66	30.19	+ .18	30.6	- 10.1	51	21	37	15	8	26	0.55	+ 1.0	10	5,518	nw.	20	n.	1	12	18	7.9	21.5					
Dodge.	2,509	11	51	27.50	30.19	+ .22	32.6	- 9.1	68	24	42	13	21	24	0.64	- 0.2	7	8,064	n.	38	ne.	24	4	18	9.6	5.6					
Wichita.	1,358	139	158	28.66	30.14	+ .15	33.8	- 10.3	62	24	40	16	6	26	0.64	- 0.3	6	9,503	n.	37	nw.	20	3	12	16	7.2	6.1				
Oklahoma.	1,214	10	47	28.82	30.14	+ .16	38.4	- 10.8	71	24	47	19	21	30	0.64	- 0.3	10	10,063	n.	42	s.	24	6	10	15	8.5	4.7				
<i>Southern Slope.</i>					44.0	- 9.2									67	1.18	+ 0.3									6.4					
Abilene.	1,738	10	52	28.27	30.11	+ .15	44.8	- 10.1	82	24	55	24	20	35	0.80	- 0.6	6	7,821	n.	46	nw.	22	5	9	17	7.0	3.0				
Amarillo.	3,676	10	49	26.29	30.10	+ .15	37.2	- 7.8	78	24	48	17	21	27	0.75	- 0.1	6	8,180	n.	40	n.	22	14	12	8	4.3	0.3				
Del Rio.	944	64	71	29.07	30.08	+ .13	52.8	- 9.3	83	30	63	32	18	42	0.75	- 0.1	5	8,853	se.	39	nw.	19	14	11	8	4.2	2.3				
Roswell.	3,586	75	85	26.38	30.04	+ .14	41.6	- 9.7	77	24	54	17	9	29	0.75	- 0.1	12	5,824	s.	29	e.	20	7	11	13	6.3	0.6				
<i>Southern Plateau.</i>					48.2	- 8.8									50	0.52	0.0									3.5					
El Paso.	3,762	110	133	26.17	29.96	+ .08	49.3	- 6.6	76	24	60	26	9	38	0.75	- 1.1	6	9,034	w.	44	nw.	31	13	13	5.2	3.5					
Santa Fe.	7,013	57	62	23.17	29.98	+ .05	35.8	- 3.6	62	24	46	14	21	26	0.70	- 0.0	10	5,209	n.	31	se.	1	6	18	7.5	7.8					
Flagstaff.	8,908	8	57	22.92	29.98	+ .05	32.2	- 7.5	59	23	46	9	3	19	0.75	- 0.2	5	5,866	e.	36	ne.	17	10	4	5.5	11.4					
Phoenix.	1,108	76	81	28.80	29.96	+ .05	58.6	- 1.9	84	24	72	34	3	46	0.75	- 0.2	5	5,866	e.	25	e.	8	19	7	5.3	3.3					
Yuma.	141	9	58	29.81	29.96	+ .03	64.4	- 0.1	91	23	79	36	3	50	0.75	- 0.4	10	4,070	n.	31	n.	16	26	5	0.1	2.2					
Independence.	3,910	11	42	25.96	29.95	+ .01	49.9	- 0.6	78	24	63	26	6	35	0.75	- 0.3	2	5,452	nw.	48	se.	28	18	9	4	3.4					
<i>Middle Plateau.</i>					43.3	- 2.3									50	0.60	- 0.7									5.0					
Reno.	4,532	74	81	25.49	30.06	+ .08	45.0	+ 4.0	76	22	58	24	8	32	0.75	- 1.1	4	4,767	w.	39	w.	25	11	10	5.2	T.					
Tonopah.	6,090	12	2	24.06	30.01		42.6	- 6.6	66	22	51	22	5	34	0.99	- 0.4	3	5,808	w.	36	nw.	18	11	14	6.4	9.5					
Winnemucca.	4,344	18	56	25.64	30.07	+ .06	43.3	+ 3.6	73	22	58	15	26	50	0.75	- 0.5	4	4,595	ne.	31	w.	28	12	6	13	5.5	0.7				
Modena.	5,479	10	43	24.61	30.00	+ .03	45.1	+ 3.7	66	23	53	29	4	37	0.75	- 0.9	4	7,503	sw.	48	sw.	28	10	12	9.5	4.2					
Salt Lake City.	1,360	147	189	25.63	30.02	+ .03	45.1	+ 3.7	66	23	53	29	4	37	0.75	- 0.5	5	5,354	nw.	31	nw.	15	10	12	9.0	1.9					
Durango.	6,546	10	46	25.96	29.95	+ .01	49.7	- 0.6	78	23	59	32	6	41	0.75	- 0.5	5	5,354	nw.	48	sw.	28	18	9	4	3.4					
Grand Junction.	1,602	82	96	25.36	29.96	+ .02	43.2	- 0.3	67	23	55	26	4	32	0.75	- 0.6	2	4,935	w.	48	nw.	18	10	11	7.5	0.1					
<i>Northern Plateau.</i>					45.9	+ 5.6									50	0.60	- 0.7									5.7					
Baker.	3,471	48	53	26.50	30.12	+ .09	42.5	+ 7.0	72	22	54	22	6	31	41	0.75	- 0.1	8	4,473	se.	21	w.	15	6	15	5.2	0.3				
Bolte.	2,739	78	86	27.22	30.10	+ .07	47.2	+ 5.0	71	23	58	27	6	37	35	39	28	50	0.78	- 0.7	5	3,815	se.	27	sw.	17	8	13	5.8	T.	
Lewiston.	757	40	48	29.29	30.11	+ .08	42.6	+ 5.6	75	21	61	27	8	38	39	0	1	17	+ 0.5	2	2,336	e.	34	sw.	17	8	11	12.5			
Pocatello.	4,477	46	54	25.48	30.04	+ .03	41.4	+ 4.5	68	22	52	21	7	31	34	0	25	1.73	+ 0.4	5	2,961	se.	42	sw.	18	8	13	5.3	0.9		
Spokane.	1,929	101	110	28.04	30.12	+ .11	45.0	+ 6.1	71	21	55	26	7	35	37	39	31	62	1.10	- 0.4	10	3,559	ne.	30	w.	17	10	12	13	T.	
Walla Walla.	1,000	57	65	29.00	30.08	+ .06	49.7	+ 5.7	73	22	59	32	6	41	42	46	41	72	1.16	- 2.2	13	1,874	s.	29	w.	17	8	11	12	5.8	T.
<i>North Pacific Coast Region.</i>					49.8	+ 5.6									77	3.24	- 1.7										6.3				
North Head.	211	11	56	29.85	30.08	+ .07	50.4	+ 5.5	72	20	54	40	1	46	17	48	45	80	1.65	- 5.3	12	5,035	n.	36	se.	26	8	10	13	6.2	
Port Crescent.	269	8	53	29.80	30.08</																										

TABLE II.—Accumulated amounts of precipitation for each 5 minutes for the principal storms in which the rate of fall equaled or exceeded 0.25 inch in any 5 minutes, or 0.80 in 1 hour, during March, 1915, at all stations furnished with self-registering gages.

Stations.	Date.	Total duration.		Total amount of precipitation.	Excessive rate.		Amount before excessive rate began.	Depths of precipitation (in inches) during periods of time indicated.													
		From—	To—		Began—	Ended—		5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
Abilene, Tex.	8-9			0.34																(*)	
Albany, N. Y.	22-23			0.05																(*)	
Alpena, Mich.	5-7			0.24																(*)	
Amarillo, Tex.	2-4			0.55																(*)	
Anniston, Ala.	4-5			0.93																(*)	
Asheville, N. C.	4-5			0.67																(*)	
Atlanta, Ga.	4-5			0.88																(*)	
Atlantic City, N. J.	6-7			1.26																(*)	
Augusta, Ga.	4-5			1.12																(*)	
Baker, Oreg.	28-29			0.80																0.18	
Baltimore, Md.	5			1.01																.09	
Bentonville, Ark.	3-4			2.27																.31	
Binghamton, N. Y.	8-7			0.47																(*)	
Birmingham, Ala.	4-5			1.46																(*)	
Bismarck, N. Dak.	3-6			0.37																(*)	
Block Island, R. I.	7			0.13																(*)	
Boise, Idaho.	28-29			0.50																.16	
Boston, Mass.	2			T.																(*)	
Buffalo, N. Y.	5-6			0.73																(*)	
Burlington, Vt.	21			0.13																(*)	
Cairo, Ill.	4-5			0.64																.17	
Canton, N. Y.	25-26			0.25																(*)	
Charles City, Iowa.	5-7			0.23																(*)	
Charleston, S. C.	5			2.42																.56	
Charlotte, N. C.	4-5			1.60																(*)	
Chattanooga, Tenn.	4-5			1.42																.22	
Cheyenne, Wyo.	25-26			0.53																(*)	
Chicago, Ill.	5			0.47																(*)	
Cincinnati, Ohio.	4-5			1.11																.23	
Cleveland, Ohio.	5			0.29																.04	
Columbia, Mo.	3-5			0.99																(*)	
Columbia, S. C.	4-5			1.30																(*)	
Columbus, Ohio.	5-7			0.89																.13	
Concord, N. H.	2			T.																(*)	
Concordia, Kans.	3-5			1.55																(*)	
Corpus Christi, Tex.	17-18			1.09																(*)	
Davenport, Iowa.	4-7			0.72																(*)	
Dayton, Ohio.	5-6			0.92																(*)	
Del Rio, Tex.	8-9			0.52																(*)	
Denver, Colo.	3-4			0.37																(*)	
Des Moines, Iowa.	3-6			1.00																(*)	
Detroit, Mich.	5-6			0.83																(*)	
Devils Lake, N. Dak.	20			0.04																(*)	
Dodge City, Kans.	2-3			0.36																(*)	
Dubuque, Iowa.	5-7			1.10																(*)	
Duluth, Minn.	5			0.14																(*)	
Durango, Colo.																					
Eastport, Me.	26			0.20																0.03	
Elkins, W. Va.	5			0.53																.10	
El Paso, Tex.	8			0.42																(*)	
Erie, Pa.	25			0.19																(*)	
Escanaba, Mich.	5-6			0.38																(*)	
Eureka, Cal.	23-29			0.74																.16	
Evansville, Ind.	4-5			0.78																.16	
Flagstaff, Ariz.	1			0.55																(*)	
Fort Smith, Ark.	20-30			1.28																.40	
Fort Wayne, Ind.	5-7			0.38																(*)	
Fort Worth, Tex.	2-4			1.15																.47	
Fresno, Cal.	27-28			0.39																.12	
Galveston, Tex.	2-4			1.17																.27	
Grand Haven, Mich.	15			0.48																(*)	
Grand Junction, Colo.	1-2			0.10																.04	
Grand Rapids, Mich.	5-6			0.64																(*)	
Green Bay, Wis.	5-7			0.62																(*)	
Hannibal, Mo.	4-7			0.52																(*)	
Harrisburg, Pa.	5-7			1.71																(*)	
Hartford, Conn.	22-23			0.21																.04	
Hatteras, N. C.	5-6			0.36																.07	
Havre, Mont.	18			0.05																(*)	
Helena, Mont.	29			0.33																(*)	
Houghton, Mich.	27-29			0.23																(*)	
Houston, Tex.	2-4			0.92																(*)	
Huron, S. Dak.	2-6			1.03																(*)	
Independence, Cal.	1			0.17																(*)	
Indianapolis, Ind.	4-5			0.86																(*)	
Iola, Kans.	4			1.08																(*)	
Jacksonville, Fla.	30-31			1.25																(*)	
Kalispell, Mont.	29-30			0.27																(*)	
Kansas City, Mo.	3-5			1.07																(*)	
Keokuk, Iowa.	4-5			0.47																(*)	
Key West, Fla.	13-14	3:40 p. m.	D. N. a. m.	0.69	12:08 a. m.	12:17 a. m.	0.14	0.20	0.34											(*)	
Knoxville, Tenn.	4-5			0.90																(*)	
La Crosse, Wis.	4-6			0.42																(*)	
Lander, Wyo.	24-25			0.48																(*)	
Lansing, Mich.	5-7			0.54																(*)	
Lewiston, Idaho.	28-29			1.12																0.14	
Lexington, Ky.	4-5			1.08																14	
Lincoln, Nebr.	2-5			1.44																(*)	
Little Rock, Ark.	3-4			1.43																(*)	
Los Angeles, Cal.	27-28			0.60																.17	
Louisville, Ky.	4-5			1.02																(*)	
Ludington, Mich.	5-6			0.41																(*)	
Lynchburg, Va.	5-6			0.80																14	
Macon, Ga.	4-5			1.56																	

TABLE II.—Accumulated amounts of precipitation for each 5 minutes for the principal storms in which the rate of fall equaled or exceeded 0.25 inch in any 5 minutes, or 0.80 in 1 hour, during March, 1915, at all stations furnished with self-registering gages—Continued.

• Self-register dismantled.

† Record partly estimated.

† No precipitation occurred during month.

TABLE III.—*Data furnished by the Canadian Meteorological Service, March, 1915.*

Stations.	Pressure.			Temperature.						Precipitation.		
	Station reduced to mean of 24 hours.	Sea level reduced to mean of 24 hours.	Depart- ture from normal.	Mean max. + mean min. + 2.	Depart- ture from normal.	Mean maximum.	Mean mini- mum.	Highest.	Lowest.	Total.	Depart- ture from normal.	Total snowfall.
	Inches.	Inches.	° F.	° F.	° F.	° F.	° F.	° F.	° F.	Inches.	Inches.	Inches.
St. Johns, N. F.	29.10	29.21	-0.64	32.8	+5.1	37.1	28.5	46	22	3.68	-1.10	12.0
Sydney, C. B. I.	29.38	29.42	- .48	29.6	+3.4	34.2	24.9	50	17	4.32	-0.61	37.0
Halifax, N. S.	29.44	29.55	- .39	31.2	+2.2	38.4	24.0	54	17	0.30	-3.16	2.5
Yarmouth, N. S.	29.56	29.63	- .32	30.5	-0.3	35.5	25.5	43	15	0.32	-4.53	2.5
Charlottetown, P. E. I.	29.48	29.52	- .35	26.9	+1.5	31.9	21.9	46	11	1.69	-1.52	15.7
Chatham, N. B.	29.59	29.61	- .29	26.6	+3.6	34.7	18.4	49	4	3.04	-0.43	28.2
Father Point, Que.	29.60	29.71	- .19	21.9	+1.6	29.2	14.6	38	2	2.27	-0.46	14.7
Quebec, Que.	29.44	29.77	- .19	24.0	+2.8	31.5	16.5	43	6	0.42	-2.84	2.6
Montreal, Que.	29.63	29.85	- .15	24.1	+2.6	32.8	20.0	46	4	0.81	-2.98	4.6
Stonecliffe, Ont.	29.34	29.97	- .04	24.8	+4.8	34.7	13.0	51	- 5	0.01	-2.05	0.1
Ottawa, Ont.	29.63	29.97	- .04	26.4	+4.9	34.4	18.4	45	4	0.50	-2.22	1.2
Kingston, Ont.	29.61	29.93	- .08	28.4	+2.8	36.7	20.2	43	9	0.13	-2.51	0.9
Toronto, Ont.	29.55	29.95	- .07	20.9	+2.6	37.5	22.4	49	11	0.84	-1.80	7.4
White River, Ont.	28.69	30.06	+ .03	15.0	+2.8	31.4	-1.3	45	-28	0.50	-0.88	5.0
Port Stanley, Ont.	29.34	30.00	- .03	28.4	+1.2	36.2	20.6	46	9	1.15	-1.73	7.3
Southampton, Ont.	29.25			26.5	+1.8	32.7	20.3	43	10	1.29	-1.38	12.9
Parry Sound, Ont.	29.26	29.98	- .04	24.6	+3.5	34.9	14.3	47	- 1	0.54	-1.69	5.0
Port Arthur, Ont.	29.41	30.15	+ .10	25.5	+8.7	36.0	15.0	50	- 7	0.05	-0.92	0.5
Winnipeg, Man.	29.39	30.37	+ .18	23.0	+10.7	33.0	13.1	47	-15	0.11	-0.92	1.0
Minnedosa, Man.	28.38	30.27	+ .21	22.6	+10.1	33.5	11.7	48	18	0.23	-0.42	2.3
Qu'Appelle, Sask.	27.90	30.34	+ .20	23.2	+8.3	34.1	12.3	50	-15	0.06	-0.71	0.6
Medicine Hat, Alberta.	27.84	30.18	+ .18	28.9	+1.4	39.6	18.2	51	1	0.02	-0.74	0.2
Swift Current, Sask.	27.55	30.22	+ .20	26.2	+4.2	36.7	15.7	55	3	0.10	-0.71	1.0
Calgary, Alberta.	26.49	30.11	+ .16	33.0	+6.8	43.9	22.0	66	4	0.06	-0.66	0.3
Banff, Alberta.	25.13	30.12	+ .18	32.2	+12.0	44.7	19.7	61	0	0.30	-1.11	2.9
Edmonton, Alberta.	27.79	30.15	+ .19	30.5	+6.3	41.8	19.2	63	5	0.10	-0.62	1.0
Prince Albert, Sask.	28.61	30.23	+ .15	22.1	+10.1	31.4	12.8	47	-10	T.	-0.77	T.
Battleford, Sask.	28.46	30.28	+ .23	25.2	+12.1	37.0	13.4	53	- 5	0.00	-0.46	0.0
Kamloops, B. C.	28.85	30.17	+ .25	45.2	+9.1	54.8	35.6	65	23	0.47	-0.19	0.0
Victoria, B. C.	29.82	29.92	- .05	48.6	+6.7	54.3	42.9	66	38	1.53	-0.59	0.0
Barkerville, B. C.	25.66	30.01	+ .13	32.6	+6.5	41.7	23.6	55	10	0.91	-0.98	9.1
Hamilton, Bermuda.	29.67	29.81	- .24	57.8	-4.4	64.4	51.1	89	41	6.70	+1.57	0.0

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